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Remarks

The present response is to the Office Action mailed in the above-referenced case on May 26, 2004. Claim 1-15 are presented below for examination. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In response, applicant herein amends the claim to delete the objectionable language.

Claim 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Ballard (6,078,960), hereinafter Ballard. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballard in view of Kenner et al. (6,112,239), hereinafter Kenner.

Applicant has carefully studied the prior art references cited and applied by the Examiner, and the Examiner's rejections and statements of the instant Office Action. In response, applicant herein amends the claims to more particularly point out and distinctly claim the subject matter of applicant's invention regarded as patentable, and to distinguish the claims unarguably over the prior art. Applicant points out and argues the key limitations in applicant's claims as amended, to clearly establish that the invention of the present invention is not taught or suggested in the prior art presented.

Applicant amends the language of claim 1 to more clearly recite monitoring quality-of-service (QoS) statistical values from the first and second server nodes, comparing actual QoS values with estimated values, and switching communication for the client node between the server nodes based on the comparison of the QoS values. Applicant reproduces claim 1 as amended below, for convenience.

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Applicant's claim 1 as amended now recites:

1. A system for replacing data services of a server-node connected to a client-node with data services available from an alternate server-node operating on a data-packet-network comprising:

a first server-node;

a client node coupled by data link to the first server-node;

an alternate second server-node connected to the network and accessible to the client node; and

a software module;

characterized in that the software module monitors one or more quality-of-service (QoS) statistical values from the first and second server nodes, compares actual QoS values with estimated values, and switches communication for the client node between the server nodes based on the comparison of the values.

Applicant's apparatus claim 6 recites the software module enabled for switching communication between the client nodes and the server nodes, and claim 13 recites the method of switching communication in accordance with the limitations of claim 1. Applicant accordingly amends claims 6 and 13 similarly to claim 1, and to more clearly agree in language with the apparatus claims. Claims 2 and 7 are accordingly herein canceled.

The amendments made to the independent claims are in accordance with the teachings of applicant's invention related to monitoring, and comparing/analyzing quality-of-service (QoS) statistical data from a first multimedia server and a second alternate multimedia server, for the purpose of intelligently, automatically and transparently to the client user, switching the

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communication between the client node to multimedia servers, based on the results of the comparison/analysis of the QoS statistical data. Based on the Examiner's prior art references provided in this case, and the Examiner's statements of the instant Office Action, it appears to applicant that this key and patentable aspect of applicant's invention is misunderstood by the Examiner.

Applicant wishes to clearly differentiate the QoS statistical data monitored and compared in applicant's invention, between the load balancing data used in the invention of the primary reference of Ballard, for changing the connection between the client and the servers. The Examiner has stated in the instant Office Action that, regarding claims 1-2, 6, the Ballard invention teaches applicant's first server node and alternate second server node, both connected to the network, and the client node coupled to the first and second server nodes, comprising substantially all of applicant's claim limitations including monitoring quality-of-service (QoS) values from the servers (col. 5, lines 42-48), and switching communication between server nodes based on an analytical function of load (col. 6, lines 1-2), and further that Ballard teaches switching is based on a comparison of performance data collected as "(load) percentages are seeds for the server selection function" (col. 6, lines 34-41) wherein switching is deciding between at least two alternative servers. Applicant respectfully disagrees with the Examiner's interpretation of the teachings of Ballard as reading on applicant's specific teachings related to using QoS statistical values for determining switching between the client node and server nodes.

Firstly, referring the Examiner now to the specification of Ballard (col. 5, lines 28-41), applicant argues that the "load balancing device" cannot be construed as applicant's claimed software module, because the hardware (not software) load balancing device of Ballard clearly does not monitor, receive, and compare true QoS statistical values, as taught in applicant's invention and now recited in

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applicant's independent claims as amended. In fact, applicant respectfully points out to the Examiner that nowhere in the reference of Ballard is there any teaching, mention or suggestion of QoS statistical data, or using QoS statistical data for intelligently switching the communications between the client node and server nodes.

In the background section of applicant's specification it is described that some prior art systems use a "smart mirror technique" for selecting from multiple servers on behalf of the user, and in some cases, the user must physically select the server from a presented list of servers. In these cases, when a user begins receiving the multimedia content, the other distributed servers hosting the same content are not considered and are not available unless the connection is physically broken with the original server and a reconnection is made with one of the alternate servers. The reference of Ballard (col. 6, lines 34-41), with reference to Fig. 6, teaches this aspect. It is clearly described that the client computer executes a server selection function to determine which server to access from the list of servers maintained at the client computer. The processor of the client computer, for example, reads the load balance list resident on the client computer, and a server selection function determines which server identified in the list is to be accessed to handle a pending data request. When a server is selected a network connection is attempted to connect the client computer to the selected server computer, the connection is tested to determine if successful, and if so, the data is read from the server computer and download to the client computer.

In contrast, applicant's invention teaches wherein the software module for monitoring one or more QoS statistical values from the first and second server nodes, switches the communication between a client node and the server nodes automatically and transparently to the user operating the client node based on a

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comparison of the QoS statistical data collected and processed by the unique software module provided in applicant's invention.

Further, as described in applicant's specification with reference to Fig. 3, QoS statistical data includes among other statistical values, available bandwidth of the data connections between the server nodes and between the client node and the server nodes, electronic distance measurement of the data connections (for evaluating true "cost"), actual data rate of streaming content received from the server being sampled, in addition to current server load. In applicant's invention for example, during playback at the client node display of multimedia content provided by a first or initial server, constant QoS data arrives with the media content. Periodically, during the multimedia playback, without breaking the initial connection to the first server, separate temporary connections are opened between client node and alternate servers for the purpose of obtaining a sampling of QoS data, by very briefly accepting the same media content from a second "test" server. Said sampling of the QoS statistical data from the alternative servers, is used along with other QoS statistical data taken from the network as described above, in order to intelligently and seamlessly determine the best source for the data, based on comparison of the QoS statistical data collected and process by the software module.

As argued above, the reference of Ballard provides no teaching or suggestion of anything having to do with monitoring and comparing/analyzing true quality-of-service (QoS) statistical data from a first multimedia server and a second alternate multimedia server, for the purpose of intelligently, automatically and transparently to the client user, switching the communication between the client node to multimedia servers, based on the results of the comparison/analysis of the QoS statistical data. For this reason, applicant argues the reference of
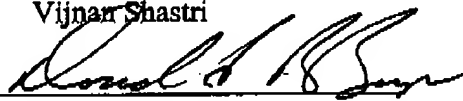
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Ballard is invalid as a primary reference, and as such, applicant respectfully requests that reference be withdrawn.

The Examiner has rejected claims 7-15 as being unpatentable over Ballard in view of Kenner. Applicant's independent claims 1, 6 and 13, all of which recite using QoS statistical data for switching the connection between the client node and the server nodes, are therefore clearly and unarguably patentable as amended over the primary reference of Ballard. Kenner also teaches only load balancing, as stated by the Examiner in his remarks, and provides no teaching whatsoever of anything having to do with using true QoS statistical data, as taught in applicant's invention and now specifically recited in applicant's independent claims. Independent claims 2 and 7 are herein canceled, and independent claims 3-5, 7-12 and 14 -15 are then patentable on their own merits, or at least as depended from a patentable claim.

As all of the claims standing for examination have been shown to be patentable as amended over the art of record, applicant respectfully requests reconsideration, and that the present case be passed quickly to issue. If there are any time extensions needed beyond any extension specifically requested with this amendment, such extension of time is hereby requested. If there are any fees due beyond any fees paid with this amendment, authorization is given to deduct such fees from deposit account 50-0534.

Respectfully Submitted,
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